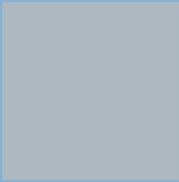


Ameriplex Parkway Extension Study



Kentucky Avenue to Mann Road

DRAFT September 25, 2017

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Appendices

Appendix A: Marion County Thoroughfare Plan Map	
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1. Report Purpose

The purpose of this report is to identify a preferred alignment and conceptual design for the extension of Ameriplex Parkway from its current terminus at Kentucky Avenue (SR 67) to the intersection of Southport Road at Mann Road. The report documents the method and results of a study conducted by the Indianapolis Department of Public Works (DPW) and Indianapolis Department of Metropolitan Development (DMD) to develop and evaluate alternatives for this proposed road project. The development and evaluation process considered the costs, operational and engineering considerations, and environmental impacts of three alternatives.

As project development moves forward, an environmental document will be required in accordance with the National Environmental Policy Act of 1969 (NEPA) to qualify for federal funding. Based on the scope and potential impacts of the project, the environmental document is likely to be an Environmental Assessment. However, the environmental document type will ultimately be determined in consultation with the Indiana Department of Transportation and the Federal Highway Administration. Whatever environmental documentation is required, this study report could serve as the alternatives analysis required by NEPA to identify the preferred alternative or as a screening report to narrow alternatives for subsequent in-depth analysis

2. Project Purpose and Need

The primary purpose of the proposed Ameriplex Parkway extension from Kentucky Avenue to Mann Road is to improve east-west connectivity across the southern part of Marion County and to support economic development within the southwest portion of Marion County. There is a lack of continuous east-west thoroughfares in the southern part of Marion County. Construction of the Ameriplex Parkway extension would connect it to Southport Road and provide a continuous east-west primary arterial across the south side of Marion County, extending from Kentucky Avenue on the west to Senour Road on the east. This would include connections between the Indianapolis International Airport, I-70, planned I-69, and I-65. A connection of Camby Road to Southport Road and to Ameriplex Parkway has been envisioned for many years and has been identified in multiple versions of the Marion County Thoroughfare Plan.

The portion of Decatur Township surrounding the proposed Ameriplex Parkway extension is experiencing land development pressure, particularly due to its proximity to the Indianapolis International Airport and the Ameriplex industrial park. Land use planning underway by the City of Indianapolis Department of Metropolitan Development will help to assure that this development occurs as desired by the community. Construction of the Ameriplex Parkway extension will provide appropriate access to this new land development without overloading the existing road infrastructure, which has inadequate capacity and connectivity.

3. Study Area

3.1 Road Network

Figure 1 shows the study area for the AmeriPLEX Parkway extension, which is located in Decatur Township of Marion County, Indiana. The study area is composed of two distinct sections. The western section is bounded by Kentucky Avenue (SR 67), Milhouse Road, High School Road/Mooresville Road and Camby Road. This area would allow several alternative road alignments. East of Mooresville Road, it is assumed that the AmeriPLEX Parkway extension would connect to Southport Road at Mann Road primarily using City of Indianapolis right of way already reserved for the extension of Southport Road. This right of way is located between the Crossfield residential neighborhood to the south and the Pheasant Run residential neighborhood to the north. Only minor alignment differences were considered between Mooresville Road and Mann Road.

3.2 Land Use

Land use within the study area is generally mixed agricultural and residential. Older residential homes are located with driveways on the major roads in the area: Camby Road, Mann Road Mendenhall Road, Mills Road, Milhouse Road and Mooresville Road. Newer residential neighborhoods with internal local streets have been constructed having their primary entrances from these thoroughfares. Land use within the study area adjacent to Kentucky Avenue is a mixture of agricultural, residential, and small commercial. Land use west of the study area, on the west side of Kentucky Avenue, is dominated by the AmeriPLEX Industrial Park.

Four churches are located within the study area: River of Life Church at 6001 Kentucky Avenue, West Newton United Methodist Church at 6843 Mendenhall Road, West Newton Friends Church at 6800 Mooresville Road, and Saint Ann's Catholic Church at 6350 Mooresville Road

Southwestway Park, a public park owned by the City of Indianapolis, is located east of Mann Road and South of Southport Road. The east end of the project study area touches the edge of Southwestway Park. The park is located east of the project terminus, however, and no direct impact to the park is anticipated.

3.3 Environmental Features and Constraints

A draft environmental red flag investigation was developed in accordance with Indiana Department of Transportation procedures to document environmental features and constraints in the study area. Natural and manmade features in the project study area were identified using geographic Information systems (GIS) data obtained from the IndianaMap website (www.indianamap.org) and from the City of Indianapolis Department of Public Works. Some of the structures and key environmental features identified in the GIS data were field verified by windshield survey.

A query of the Indiana Department of Environmental Management (IDEM) Wellhead Proximity Determinator website (<http://www.in.gov/idem/pages/wellhead/>) conducted by qualified staff, indicated that portions of the project area lie within a Wellhead Protection Area. During final design and

construction, appropriate sediment and erosion control and spill protection measures should be implemented to ensure appropriate protection of the wellhead protection areas.

Three creeks cross the study area as they flow toward the White River. Goose Creek and Millhouse Creek cross the study area west of Mooresville Road and Mann Creek crosses the study area east of Mooresville Road.

Wetland areas exist at various locations along Goose Creek and Mann Creek, as identified in US Fish and Wildlife Service National Wetlands Inventory data. Additional areas that may be considered wetlands were noted within unfinished portions of the Camby Woods subdivision and may also exist elsewhere in the study area. Wetland delineation should be completed for the area impacted by the preferred alternative during the NEPA evaluation.

Indiana Department of Natural Resources GIS data was reviewed for the presence of historic properties within and adjacent to the study area. One property located on Mann Road, just south of Southport Road, is listed on the National Register of Historic Places. It is not expected to be impacted by this project. Some properties were identified in the GIS data as potentially eligible historic properties. Other properties were identified during field review as potentially eligible based on their apparent age.

A potentially eligible historic bridge is identified in GIS on Mills Road at Millhouse Creek, but it is identified as “demolished.” Field observation from above did not indicate that the current bridge is historic, and it was not considered to be historic.

Forested areas exist within the study area and would be impacted by any of the project alternatives. Forested areas within Marion County are potential summer habitat for the federally endangered Indiana Bat and the federally threatened Northern Long-Eared Bat.

3.4 Utilities

Significant underground utilities owned by Citizens Environmental Group (CEG) exist within the study area. A gas transmission line and water line are located parallel to Camby Road and extend through the city-owned right of way to Southport Road. A CEG sanitary line also exists near Mann Creek. These facilities are generally located within easements.

The Indianapolis Airport Authority maintains property easements through the study area that provide a 400-foot wide corridor for the future potential rerouting of electrical transmission lines that would conflict with airport expansion. This corridor crosses Kentucky Avenue in an east-west orientation south of Mills, turns and runs parallel to Kentucky Avenue within ½ mile of the southeast side of the road, then turns again and crosses Kentucky Avenue in a north-south orientation immediately east of Mendenhall Road.

Other utilities, including Indianapolis Power and Light, also have facilities within the study area.

3.5 Indiana Southern Railroad

The Indiana Southern Railroad Company maintains an active single-track freight line that runs parallel to Kentucky Avenue through the study area. The track is located on the northwest side of Kentucky Avenue, with a track center generally 30 to 50 feet away from the edge of the Kentucky Avenue travel lanes. The railroad crosses Ameriplex Parkway within the signalized intersection of Ameriplex Parkway and Kentucky Avenue. Active gates and overhead flashers are located at this crossing. The May 2017 US Department of Transportation crossing inventory form for this crossing estimates that this crossing is used by one train per day with a typical speed not exceeding 10 mph.

4. Previous Planning and Related Projects

4.1 Thoroughfare plan and alignment studies

The official Thoroughfare Plan for Indianapolis and Marion County¹ proposes two projects that together would provide a connection from Ameriplex Parkway at Kentucky Avenue to Southport Road at Mann Road. The first is the extension of Ameriplex Parkway south from its current terminus at Kentucky Avenue to intersect with Camby Road. The second is the widening and extension of Camby Road from Kentucky Avenue to intersect with Mann Road at Southport Road. The Thoroughfare Plan proposes that these roads be constructed as 4-lane primary arterials with right of way width of 119 feet. A map from the Thoroughfare Plan that shows these and other nearby proposed projects is provided in **Appendix A**.

Previous versions of the official Thoroughfare Plan have also designated these projects and have provided additional details on their alignment, design and impacts. Information supporting the 2012 Thoroughfare Plan update includes a detailed description of the proposed Ameriplex Parkway extension segment from Kentucky Avenue to Camby Road.² This information is based primarily on a 2011 study conducted by Parsons Brinckerhoff for the City of Indianapolis Department of Public Works.³ This study developed updated traffic forecasts for the proposed extension from Kentucky Avenue to Camby Road, developed a preferred alignment and preliminary layout drawings, and determined that an at-grade intersection would be sufficient where Ameriplex Parkway would cross Kentucky Avenue and the Indiana Southern Railroad.

Supporting information for an earlier version of the official Thoroughfare Plan was developed in 1997 and provides additional detail for the proposed new segment of Camby Road between Mooresville Rd and Mann Road.⁴ Plans developed with this information identify a proposed right of way width of up to 140

¹ *Thoroughfare Plan, Indianapolis and Marion County, 2016 Update*. Adopted by the Metropolitan Development Commission on August 3, 2016.

² "Segment No. 20 – Ameriplex Parkway from SR 67 to Camby Road." *Indianapolis Thoroughfare Plan Supplement – Missing Roadway Segment – Sketch Plans*. No Date.

³ *Traffic Analysis for SR 67 and Ameriplex Parkway, Indianapolis, Indiana*. Parsons Brinckerhoff. June 30, 2011.

⁴ "Segment No. 18 – Camby Road from Mooresville Road to Mann Road." *Indianapolis Thoroughfare Plan Supplement – Missing Roadway Segment – Sketch Plans*. No Date.

feet. Potential stream relocations are identified where the alignment would cross Mann Creek in two separate locations.

4.2 Related Projects

4.2.1 Southport Road and Mann Road Intersection

The City of Indianapolis has received federal Highway Safety Improvement Program funding to reconstruct the intersection of Southport Road and Mann Road (Des Number 1700905). This intersection has a high crash history due to its unusual intersection geometry. The project will realign Southport Road to intersect Mann Road at a right angle and will install a traffic signal. This project is expected to be constructed in 2022.

4.2.2 I-69 Section 6

The I-69 Evansville to Indianapolis freeway project is currently being designed and constructed in sections by the Indiana Department of Transportation. An Environmental Impact Statement (EIS) for I-69 Section 6 is currently under development as the final section. I-69 Section 6 will begin in Martinsville and end with a new interchange at I-465 near Harding Street. This new freeway facility will be located on the existing alignment of SR 37, and is proposed to have local access interchanges at County Line Road, Southport Road, and Epler Avenue within Marion County.

4.2.3 Other proposed thoroughfare improvements

Several capacity improvement projects are identified in the Indianapolis-Marion County Thoroughfare Plan in the immediate vicinity of the proposed AmeriPLEX Parkway extension.¹ These include the following:

- Kentucky Avenue, I-465 to Camby Road – widen to 6-lane primary arterial
- Mann Road, Kentucky Avenue to County Line Road – widen to 4-lane primary arterial
- Southport Road, Mann Road to East Street – widen to 4-lane primary arterial
- Thompson Road, Kentucky Avenue to High School Road – new 4-lane secondary arterial
- Mendenhall Road/Paddock Road, Kentucky Avenue to County Line Road – build/widen to 4-lane collector
- Milhouse Road, High School Road to Mann Road – new 2-lane collector

Of the above projects, the Thompson Road project and the portion of the Southport Road project east of SR 37 are identified in the cost-constrained MPO 2035 Long Range Transportation Plan.⁵ The other projects are not contained in a fiscally-constrained transportation plan.

4.3 Land Use Plan

The Land Use Plan is an element of the official Comprehensive Plan for the City of Indianapolis and Marion County. The existing Land Use Plan for the portion Decatur Township that includes the AmeriPLEX

⁵ *Indianapolis Metropolitan Planning Area Long Range Transportation Plan: 2017 June Amendment*. Indianapolis Metropolitan Planning Organization. June 14, 2017.

Extension study area was developed in 2005.⁶ The Land Use Plan identifies proposed future land use throughout the township, identifies environmental constraints to land development, and provides development recommendations within critical areas. Proposed land use within the study area is primarily residential. Higher density residential, along with commercial and office uses, are proposed along Kentucky Avenue and along Camby Road near Kentucky Avenue.

The plan identifies a critical area near Ameriplex Parkway and Kentucky Avenue, with the following recommendations:

- Preserve right of way for the Ameriplex Parkway/Kentucky Avenue interchange and the Ameriplex Parkway/Camby Road Connector.
- Convert residential properties along Kentucky Avenue to commercial uses in an integrated manner to limit curb cuts and sign clutter.
- Provide access to higher density residential areas from Kentucky Avenue rather than Mendenhall Road.
- Preserve wooded areas designated as environmentally sensitive.
- Do not develop wetlands.

A second critical area is identified near the Southport Road/Mann Road intersection, with the following recommendations:

- Preserve right of way for the proposed Camby Road/Southport Road Connector.
- Restrict commercial development in the intersection vicinity.
- Do not development wetlands or floodway.
- Minimize development of wooded areas and steep slopes.
- Preserve the former Antrim School (7041 Mann Road), the Nicholson Rand House (corner of Southport Road and Mann Road) and other historic structures in the Critical Area.
- Acquire additional parkland as shown on the Land Use Map.
- Provide a wide, pedestrian-friendly sidewalk or pathway along both sides of the proposed Southport Road/Camby Road connector.
- Preserve right of way for the White River Greenway proposed in the Indianapolis Greenways Plan.

A full update of the Marion County Land Use Plan is currently underway as a part of the City of Indianapolis Plan 2020 Initiative. Changes to recommendations from the existing plan could impact design of the proposed Ameriplex Parkway extension.

⁶ *Insight Indianapolis: The Comprehensive Plan for Marion County, Indiana*. Decatur Township area south of Kentucky Avenue. City of Indianapolis, Department of Metropolitan Development, Division of Planning. Adopted December 7, 2005.

A detailed plan for development of the Kentucky Avenue corridor was developed in 2010⁷ This plan includes recommendations to guide future development within the corridor, including:

- Pedestrian and bicycle facilities
- Additional transit infrastructure and service
- Signage, lighting, landscaping and other corridor design elements
- Site development standards
- Development and redevelopment recommendations for specific areas and sites, including conceptual site plans

5. Traffic Demand

In February 2017, the Indianapolis Metropolitan Planning Organization (MPO) used their regional travel demand model to develop a preliminary forecast of traffic that would use a direct roadway connection between Ameriplex Parkway at Kentucky Avenue and Southport Road at Mann Road. The forecast generated with the travel demand model is that 12,000 to 16,000 vehicles per day would use the segment of Ameriplex Parkway between Kentucky Avenue and Mann Road. Traffic volumes of 22,000 to 26,000 vehicles per day would be expected on Southport Road east of Mann Road. Trucks would be expected to comprise approximately 12% of the daily traffic volumes.

By comparison, traffic forecasts developed during the 2011 Parsons Brinckerhoff study³ anticipated that approximately 9,000 vehicles per day (with 2% trucks) would use the new segment of Ameriplex Parkway immediately southeast of Kentucky Avenue.

The MPO traffic forecast is sufficient to confirm the basic design configuration and footprint of the proposed facility. However, more detailed design hour traffic forecasts will be necessary as the project proceeds to confirm intersection lane configurations and traffic control.

Travel demand forecasts for specific roadway links are based both on the characteristics of the available road network and on the population and employment in the area which generates the demand for transportation of people and goods. Study area population and employment growth assumptions included in the MPO travel demand model are currently being reviewed as the MPO extends its travel forecasting horizon to 2040. In addition, forecasts could change if updates to the Comprehensive Plan change the expectation for the type and/or intensity of development in this area.

⁷ *Kentucky Avenue Corridor Plan*. City of Indianapolis, Department of Metropolitan Development, Division of Planning. Adopted February 17, 2010.

6. Roadway Design

Recommended design criteria for the AmeriPLEX Parkway extension are derived from the Marion County Thoroughfare Plan and adjusted based on discussions with DPW and DMD staff. Recommended design criteria are provided in **Table 1**, and typical sections are shown in **Figure 2**.

It is recommended that the road be constructed as a 4-lane divided arterial with curb and gutter, raised center median, and separated pedestrian and bicycle facilities within a 130-foot wide right of way. This forecast demand is well within the range that can be accommodated by a 4-lane divided arterial, which is the facility type designated in the existing Thoroughfare Plan. However, even if the traffic forecast for the AmeriPLEX Parkway extension were to double, a 4-lane road with adequate intersections would accommodate anticipated traffic

Table 1. Recommended Design Standards for AmeriPLEX Parkway Extension

Feature	Recommendation
Functional Classification	Primary Arterial
Proposed Lanes	4 lanes @11-feet wide
Right of Way Width	130 feet
Design Speed	45 mph
Posted Speed	40 mph outside of village areas. 30 or 35 mph within village areas.
Median	15-foot raised median
Drainage	Curb and gutter with enclosed drainage
On Street Parking	8-foot both sides in village areas. None outside of village areas
Pedestrian Accommodation	6-foot sidewalk on one side and 10-foot multi-use path on opposite side. Wider sidewalks in village areas.
Bicycle Accommodation	10-foot multi-use path. 5-foot buffered bike lanes within village areas.
Utility accommodation	Can be accommodated at back of right of way outside village areas and under sidewalk within village areas.

A “village” typical section was developed to show how the AmeriPLEX Parkway right of way could be configured to support compact urban village development at locations identified during the comprehensive land use planning process. The village typical section would provide on-street parking, bike lanes and wider sidewalks to slow traffic and support commercial development.

This study made assumptions about intersection traffic control based on the preliminary daily traffic forecasts. Stop control is assumed on lower volume streets that intersect AmeriPLEX Parkway. Traffic signals are assumed at higher volume intersections. Roundabouts could be a good alternative, but additional work would be necessary to develop traffic forecasts based on land use forecasts. A two-lane

roundabout should be able to accommodate intersections that have total daily entering volumes of up to 30,000 and possibly more, depending on conditions.⁸

7. Alignment alternatives

7.1 Alternatives Screening

Four conceptual alignment alternatives for the Ameriplex Parkway extension were developed. These alternatives are shown in **Figure 3**. A 130-foot typical right of way width was assumed for all alternatives. Microstation CAD software was used to lay out the right of way envelope for each conceptual alignment alternative on digital aerial photography. Additional right of way acquisition was assumed along crossing streets where new intersection turning lanes may be necessary, although no detailed analysis of intersection requirements was conducted. While the alignments differ west of Mooresville Road, they all follow the same alignment from Mooresville Road to the east project terminus at Mann Road.

Conceptual alignment alternatives were reviewed by the project team using a qualitative comparison of advantages and disadvantages. A brief description of each conceptual alternative is provided below.

Conceptual Alternative 1. This alternative follows the alignment identified in the current Marion County Thoroughfare Plan. The road would extend Ameriplex Parkway along new terrain south from Kentucky Avenue to a T-intersection with Camby Road. It would use right of way reserved through the Camby Woods residential development. The road would then turn east, following Camby Road and extending Camby Road to intersect with Mann Road at its existing intersection with Southport Road. The following advantages and disadvantages were identified for this conceptual alternative:

- Advantages
 - Included in the Thoroughfare Plan and therefore anticipated by the public
 - Partial right of way already reserved through the Camby Woods residential development
 - Alignment could somewhat discourage use as a through traffic connection
 - Avoids most environmentally sensitive areas along Goose Creek and Milhouse Creek
 - Re-uses 1 mile of existing Camby Road right of way
 - Least new terrain construction of any alternative
- Disadvantages
 - Most relocations and drive impacts of any alternative due to alignment along Camby Road
 - Right of way within unfinished areas of the Camby Woods subdivision has developed wetland characteristics and may be regulated wetland
 - Highest utility impacts, with significant utility relocations required along Camby Road

⁸ *Roundabouts: An Informational Guide, Second Edition*. National Cooperative Highway Research Program Report 672. Transportation Research Board. 2010. Exhibit 3-12.

- Alignment could somewhat discourage use as a through traffic connection

Conceptual Alternative 2. This alternative would follow a new terrain alignment along the south side of Goose Creek and would cross Milhouse Creek using a new bridge constructed just north of Camby Road. The road would intersect Camby Road just east of Goose Creek. It would then turn east, following Camby Road and extending Camby Road to intersect with Mann Road at its existing intersection with Southport Road. The existing Camby Road crossing over Goose Creek would be eliminated, and a new T-intersection would be constructed to connect the segment of Camby Road west of Goose Creek to the AmeriPLEX Parkway extension. The following advantages and disadvantages were identified for this conceptual alternative:

- Advantages
 - Most direct through route between Kentucky Avenue and Southport Road
 - Lowest impacts to developable property of any alternative
- Disadvantages
 - Highest potential floodplain and waterway impacts due to route adjacent to Goose Creek
 - Relatively high impacts to forested areas and possible summer bat habitat
 - Alignment of the road adjacent to Goose Creek minimizes its exposure to developable land
 - A direct through traffic route may be undesirable to some

Conceptual Alternative 3. This alternative would extend AmeriPLEX Parkway southeast on new terrain from Kentucky Avenue to the intersection of Mendenhall Road and Mills Road. The road would then follow the alignment of Mills Road east for approximately 3,000 feet before turning south at a new intersection and extending south across new terrain to a new T-intersection with Camby Road. The road would then turn east again, following Camby Road and extending Camby Road to intersect with Mann Road at its existing intersection with Southport Road. The following advantages and disadvantages were identified for this conceptual alternative:

- Advantages
 - Re-uses $\frac{3}{4}$ mile of existing right of way along Mills Road and Camby Road
 - Alignment would support better access to existing and new development along Mills Road
 - Alignment could somewhat discourage use as a through traffic connection
- Disadvantages
 - Requires right of way acquisition from a potential historic property along Mills Road
 - Relatively high impacts to forested areas and possible summer bat habitat
 - Requires a skewed crossing of Goose Creek and a separate crossing of Milhouse Creek
 - Alignment could draw more traffic to residential areas along Mills Road east of Mooresville Road
 - Alignment could somewhat discourage use as a through traffic connection

- Creates a new intersection 1,000 feet from the existing Camby Road/Mooresville Road intersection

Conceptual Alternative 4. This alternative would extend Ameriplex Parkway from Kentucky Avenue east for approximately one mile on new terrain parallel to and approximately 800 feet north of Mills Road. The road would then turn south, still following a new terrain alignment, to cross Mills Road and intersect with Camby Road. The road would then turn east again, following Camby Road and extending Camby Road to intersect with Mann Road at its existing intersection with Southport Road. The following advantages and disadvantages were identified for this conceptual alternative:

- Advantages
 - Lowest utility impacts due to new terrain alignment
 - More access to developable land than any other alternative
- Disadvantages
 - Longest new terrain alignment
 - Requires separate crossings of Goose Creek and Milhouse Creek and tributaries
 - May impact forested wetlands associated with Milhouse Creek
 - Alignment parallel to Mills Road and approximately 800 feet away limits land development options between Mills Road and Ameriplex Parkway
 - Creates a new intersection 800 feet from the existing Mendenhall Road/Mills Road intersection
 - Some impacts to forested areas and possible summer bat habitat

7.2 Final Alternatives

Based on evaluation of the four conceptual alignment alternatives, the alternatives were refined and consolidated into three final alternatives for more detailed quantitative evaluation. The refinements are described below. The refined alternatives are shown in **Figure 4**.

Alternative 1. This alternative was retained from Conceptual Alternative 1 with minimal refinement.

Alternative 2. This alternative was retained from Conceptual Alternative 2. The alignment was refined to reduce impacts on Goose Creek and improve the alignment at its connection with existing Camby Road.

Alternative 3. This alternative is a refinement of Conceptual Alternative 3 to include desirable features from Conceptual Alternative 4. This included reconfiguring the proposed new intersections at Mills Road and Camby Road to provide better through connectivity along the Ameriplex Parkway extension. The road would curve through these intersections to allow drivers to remain on the Ameriplex Parkway without making a right or left turn. This would also be expected to reduce traffic volumes on Mills Road east of Ameriplex Parkway and on Camby road west of Ameriplex Parkway because these would be less direct movements. The propose alignment of Ameriplex Parkway was also shifted north where it follows Mills Road, and it would hold the existing right of way line on the south side of Mills Road. This would reduce property impacts and eliminate the direct impact to the potentially historic Mills Farm property.

During refinement of Conceptual Alternative 3, multiple alignment options were considered for trade-offs among anticipated property impacts, traffic operation and construction cost. The options that were considered are shown in **Figure 5**.

Conceptual Alternative 4 was eliminated from consideration primarily because its alignment 800 feet north of Mills Road would limit development opportunities on the north side of Mills Road and could create traffic congestion along Mendenhall Road due to the proximity of the two intersecting roads. This alignment did not appear to have advantages compared to that used by Conceptual Alternative 3.

7.3 Southport and Mann Intersection Alignment Option

During alternative refinement, two options were developed for connecting the Ameriplex Parkway extension to Southport Road at Mann Road. Either of these options could be used with any of the three alignment alternatives. With Option A, Ameriplex Parkway near Mann Road would follow the alignment of Southport Road, extending it straight west from where it ends at Mann Road. With Option B, a curve would be constructed in the Ameriplex Parkway alignment so that it intersects Mann Road closer to a right angle. Option B would better align with the proposed realignment of Southport Road at Mann Road describe in **Section 4.2.1**. Both options are shown in **Figure 4**.

8. Comparison of Alternatives

The three final Ameriplex Parkway extension alternatives were compared based on their transportation functionality, impacts to the natural and manmade environment, cost and constructability, and their community support. Comparison methods and results are described in the following subsections.

8.1 Transportation Functionality

A review of transportation functionality was conducted to consider the ability of each alternative to serve anticipated travel demand safely and efficiently. Each alternative would provide a four-lane primary arterial with a raised center median through the project limits, which is expected to have sufficient capacity for forecast vehicle demand. Each alternative would also provide a continuous sidewalk and a multi-use path to serve non-motorized travel. As shown in **Table 2**, the overall lengths of the three alternatives are similar. Alternative 2 is the shortest of the three routes. It is approximately 1,300 feet shorter than Alternative 3 and 1,650 feet shorter than Alternative 1.

Connectivity

Alternative 2 would provide the most direct alignment through the study area, which could encourage it's use as a through traffic route between the Indianapolis International Airport vicinity and Southport Road to the east. Alternatives 1 and 3 would provide somewhat less direct connectivity to Southport Road, which could limit the use of the Ameriplex Parkway extension for regional trips. The alignment of Alternative 3 along Mills Road might draw more traffic to residential areas along Mills Road east of Mooresville Road.

Traffic Operations and Safety

Each of the alternatives would reuse a segment of existing Camby Road or Mills Road. This could reduce the cost and environmental impacts of new road construction, but is also expected to affect the design and operation of the AmeriPLEX Parkway extension by preserving direct access to existing private driveways along these roads. It is desirable to minimize direct private drive access to an arterial road due to the potential impacts on traffic safety and operation. Alternative 1 would maintain direct access to approximately 25 existing residential driveways along the alignment of Camby Road. Alternatives 2 and 3 would maintain access to approximately 8 to 10 driveways along Mills and/or Camby Road. It is recommended that driveway access be restricted to right turns in and out, with no median breaks.

The proposed alignment of Alternative 3 creates challenges that would need to be addressed during design. This alternative would require intersections to be located on curves where the AmeriPLEX Parkway extension connects to Mills Road and Camby Road. Large curves or reduced speed limits could be necessary to provide appropriate driver sight distance for safe operation at these intersections, which could increase construction, operation and maintenance costs. In addition, the intersection of AmeriPLEX Parkway with Camby Road would also be less than 1,000 feet from its intersection with Mooresville Road in Alternative 3. The impacts of this proximity on traffic operation at these intersections would need to be considered during design.

With Alternative 2, AmeriPLEX Parkway would intersect Mendenhall Road approximately 200 feet north of Eddie Lane. While Eddie Lane is currently a low volume residential street, it is possible that it could be extended west to serve additional development. The configuration of this access would need to be considered in more detail if this alternative is selected for further study.

In comparing the AmeriPLEX Parkway alignment options near the Mann Road, Option B would provide better safety if a traffic signal or stop control is used. This is because the intersecting roads would cross at close to a right angle with Option B. If a roundabout can be used at this intersection, the angle of intersection is not as important, and either alignment option would provide equivalent performance.

8.2 Impacts

The potential impacts of each alternative to the natural and manmade environment in the project study area were assessed using analysis of geographic information systems (GIS) data obtained from the IndianaMap website (www.indianamap.org) and from the Department of Public Works. Some of the structures and key environmental features identified in the GIS data were field verified by windshield survey. **Table 2** provides a summary comparison of the impacts for each alternative. **Figure 6** shows the locations of potentially impacted resources and properties. The potential impacts of each alternative as shown in the table assume the alignment of Option A near Mann Road. The differences in impacts if Option B were to be selected are shown in the last column of the table.

The GIS analysis was used to estimate potential impacts of each alternative alignment on natural areas that included streams, wetlands, floodplain, and forests. Alternatives were developed to avoid or

minimize impacts to wetlands and streams to the extent practical, but some impacts would be unavoidable. Impacts to all natural areas were calculated based on the proposed right of way for each alternative. As part of future NEPA analysis and final design, the preferred alternative will be refined to further reduce impacts or provide mitigation measures where required.

Table 2. Comparison of Alternatives

Impact		Alternative 1	Alternative 2	Alternative 3	Option B Added Impact
Alternative Length		3.35 miles	3.04 miles	3.29 miles	0.09 miles
Streams & Wetlands	Stream Crossings	4	4	5	-
	Stream Impacts	1,436 feet	1,499 feet	1,777 feet	7 feet
	Floodplain Impacts	1.8 acres	2.3 acres	1.6 acres	0.1 acres
	Wetland Impacts	0.5 acres	0.5 acres	0.5 acres	-0.1 acres
Historic Properties	Potential Historic Properties Impacted	-	-	-	-
Right-of-Way	New Right of Way	41.6 acres	42.3 acres	44.3 acres	0.5 acres
Potential Relocations	Residential	16 homes	9 homes	9 homes	2 homes
	Commercial	-	-	-	-
	Industrial	-	-	-	-
Land Use	Forest Impacts	10.2 acres	11.7 acres	11.1 acres	0.2 acres
	Residential Impacts	13.6 acres	11.5 acres	11.5 acres	1.9 acres
	Commercial Impacts	<0.1 acres	1.1 acres*	<0.1 acres	-
	Industrial Impacts	-	-	-	-
	Agricultural Impacts	23.0 acres	29.8 acres	32.8 acres	-1.4 acres

*Includes land at West Newton United Methodist Church

Potential impacts of the project alternatives to wetlands were identified and calculated based on US Fish and Wildlife Service National Wetlands Inventory (NWI) data. These data are useful as a planning tool, but are not necessarily up to date and have not been field verified with a wetlands delineation study. For example, field review identified conditions within the unfinished areas of the Camby Woods residential neighborhood on the north side of Camby Road that could be considered wetlands. However, these are not identified on NWI mapping. Wetland delineation should be completed for the preferred alternative during the NEPA evaluation.

The GIS analysis was also used to determine the total new right of way required for each alternative, along with anticipated impacts to residential, business, and agricultural properties, and to properties that are potentially eligible for the National Historic Register. Residential properties were identified as potentially requiring relocation by a project alternative if the main dwelling was inside the proposed right of way or would not be accessible once the project was constructed. No business relocations were identified for any alternative.

The potential realignment of Mann Creek where it crosses the proposed Ameriplex Parkway alignment east of Mooresville Road is reflected in the right of way acquisition and stream impacts identified for all three of the alternatives. The realignment would make this crossing perpendicular to the road. It could be determined during project design that retaining the existing creek alignment by using a longer culvert under the road is preferred.

8.3 Cost and Constructability

Planning level cost estimates were developed for implementation of each of the Ameriplex Parkway extension alternatives. Construction costs were developed based on typical Indiana Department of Transportation construction methods and unit construction costs. Quantities for roadway items associated with each alternative were estimated using the CAD alignments and assumed typical roadway sections. The quantities of other items, such as drainage structures and traffic signals were estimated by identifying their potential locations and sizes from the alignment and aerial photography. The construction cost was quantified using INDOT pay items, and the unit cost for each pay item was determined by INDOT's "2016 English Unit Price Summaries" spreadsheet on INDOT's website. Due to the very preliminary status of project planning, a 25% contingency was applied to project costs.

Utility relocation costs were estimated using utility plans received from the respective utility companies. And unit costs identified in coordination with the utilities. The major relocation costs included a 30" water line and a 20" transmission gas line running along parallel to Camby Road extending to Mann Road. The Right of way acquisition costs for parcels impacted by each alternative were estimated based on the footprint of each alternative and by applying assessed property value information and typical land acquisition and relocation costs.

A summary of costs for each alternative is provided in **Table 3**. For each alternative, the cost is identified for both alignment options at Mann Road.

Table 3. Estimated Project Cost by Alternative

Cost Element	Alternative 1		Alternative 2		Alternative 3	
	Option A	Option B	Option A	Option B	Option A	Option B
Construction	\$20,200,000	\$20,700,000	\$18,400,000	\$19,000,000	\$19,300,000	\$19,900,000
Preliminary Engineering	\$2,300,000	\$2,300,000	\$2,100,000	\$2,200,000	\$2,200,000	\$2,200,000
Right of Way	\$4,300,000	\$4,800,000	\$3,000,000	\$3,500,000	\$3,000,000	\$3,500,000
Utilities	\$12,900,000	\$13,400,000	\$10,200,000	\$10,700,000	\$7,000,000	\$7,500,000
TOTAL	\$39,600,000	\$41,300,000	\$33,700,000	\$35,400,000	\$31,500,000	\$33,100,000

Utility relocation

The potential for significant utility conflicts was reviewed for each of the alternatives based on GIS data and evidence of utilities noted during field reviews. Citizens Energy Group has a significant utility corridor along Camby Road and through the city-owned right of way where all three alternatives would be located between Mooresville Road and Mann Road. Utilities located within this corridor include a gas transmission line, a water main, and a sanitary sewer interceptor. These facilities are generally located within easement, and they would be relocated within the right of way for the AmeriPLEX Parkway extension. The costs of their relocation have been included in the project cost estimates developed for this study. The impacts of the three alternatives on these utilities are directly to the length of their alignment along Camby Road, so Alternative 1 has the most impact and Alternative 3 the least.

8.4 Economic development potential

[This section will be completed after DMD review. Some notes regarding access to development areas are provided below, based on previous team conversations]

- Alternative 1 would provide the best access to support new development along Kentucky Avenue between AmeriPLEX Parkway and Camby Road. Alternative 2 would also provide access to this area. Alternative 3 would best support access to existing and new development along Mills Road and north of Mills Road.
- Alternative 3 would provide direct frontage to the most undeveloped land. Alternatives 1 and 2 would improve access to undeveloped parcels along Camby Road between Mendenhall and Mooresville Roads, but they would not penetrate this area like Alternative 3 would. All alternatives would serve land development west of Mooresville Road equally

9. Public and Stakeholder Input

A public meeting was held at the Decatur branch of the Indianapolis Public Library on May 11, 2017. The purpose of the meeting was to describe the AmeriPLEX Parkway extension study and the three alternatives, as well as obtain input that would help to develop the project. The meeting sign-in sheet was signed by 108 participants. Information presented at the meeting is also posted on the Department of Public Works website.⁹

Participants in the May 11, 2017 public meeting were invited to provide written comments regarding the project, including feedback on the three alternative alignments for the AmeriPLEX Parkway extension. A summary of common topics among the written comment forms is provided in **Table 4**. Of those who expressed an opinion for or against specific alternatives, the preference was generally for either Alternative 2 or Alternative 3. This information is shown in **Table 5**. Based on conversations at the public

⁹ <http://www.indy.gov/eGov/City/DPW/RebuildIndy/Projects/Pages/MajorProjectFactSheetsandLinks.aspx>

meeting, some were aware of the proposed project and the designation of the Alternative 1 alignment in the Marion County Thoroughfare Plan, but some were not.

Table 4. Public Meeting Comment Topics

Number of Statements	Topic
10	Requested project information
9	Prefer or oppose specific alternative
5	opposed to project
4	Traffic concerns
2	Opposed to warehousing in the area
2	Noise concerns
2	Need to improve Southport Road
1	In favor of project
1	Request additional meetings
1	Farmland preservation concern
1	Emergency access concern
1	property value concern
1	Neighborhood impacts concern

Table 5. Stated Alternative Preferences from Comments

Alternative	Number who Prefer	Number who Oppose
Alternative 1	0	2
Alternative 2	2	0
Alternative 3	3	1

10. Conclusions and Recommendations

[This section to be completed after DMD review of the project. Potential discussion items are identified below]

- Meet with INDOT and FHWA to confirm the level of NEPA environmental documentation necessary for project approval and the need for additional alternatives analysis. Initiate NEPA study.
- Identify funding mechanism for design and construction
- Get project approved for funding within the Indianapolis MPO 2045 Long Range Transportation Plan and the Indianapolis Regional Transportation Program.
- More detailed traffic forecasting and analysis recommended to support intersection design

- Preferred alignment option at Mann Road/Southport Road intersection may depend on whether a roundabout is recommended at this intersection.
- Traffic forecast would help determine whether construction should be phased to defer construction of half of the 4-lane divided arterial.
- Determine how the funded intersection improvements at the intersection of Mann Road and Southport Road can be designed to be compatible with the ultimate configuration.
- Relocation of Mann Creek vs. using a longer and more expensive pipe to be determined during design

Figure 1. Study Area Map

Figure 2. Typical Sections

Figure 3. Conceptual Alternatives

Figure 4. Refined Alternatives

Figure 5. Alternative 3 Options Considered

Figure 6. Alternative Impacts

Appendix A
Marion County Thoroughfare Plan Map
